A PROCESS FOR MODELLING TILES AND SLABS

BACKGROUND of the INVENTION.

The invention relates to a process for modelling tiles and/or slabs which have a "visible", or upper surface, and a laying surface, or lower surface, where the tiles or slabs are not flat.

It is usefully applied in tiles and/or slabs made of all types of material. In particular, it is applicable in ceramic tiles, marble slabs or tiles made of natural stone and stone material in general.

In realization of floors with tiles or slabs special pieces are frequently made, such as wainscotting, cornering and the like, in which the same tile or slab used for the floor is also used for the special pieces.

The prior art includes corner finishes using ceramic tiles, one of which applications consists in making special products formed by pressing or extrusion and fired in a kiln.

These are expensive processes which among others exhibit the drawback of always requiring movement and storage of special pieces which do not have the simple shape of a tile or slab, and which are characterised by a non-modifiable conformation.

The main aim of the present invention is to obviate the drawbacks in the prior art by providing a process for modelling tiles and/or slabs so that they take on a non-flat configuration without any need for complex and expensive known constructional technologies.

The invention proposes in particular to solve the problem of tile or slab modelling when corner pieces are to be made, with convex in-view surfaces.

These aims and advantages and others besides are all attained by the present

invention, as it is characterised in the claims that follow.

SUMMARY of the INVENTION.

The process comprises the following stages: cutting at least one groove into the upper surface to a depth therein which is only a part thereof; fixing a thin and flexible temporary support element to the upper surface; making at least one recess which, starting from the lower surface covers the entire width of the body of the tile in a position corresponding to the groove, but not the support element; the recess separating the body of the tile into at least two parts, totally separated; nearing the two parts of the tile by bending the thin and flexible temporary support element which keeps the at least two parts of tile (separated by the recess) united, so that the tile is fashioned into the non-flat predetermined conformation.

BRIEF DESCRIPTION of the DRAWINGS.

Further characteristics and advantages of the present invention will better emerge from the detailed description that follows of the various stages of the process of the invention, as well as a possible but non-exclusive embodiment of the invention, illustrated purely by way of a non-limiting example in the accompanying figures of the drawings, in which:

figure 1 shows, in a plan view, the result of a first operative stage of the invention;

figure 2 shows a section made according to line I-I of figure 1;

figure 3 shows, in the section of figure 2, the result of a second operative stage of the invention;

figure 4 schematically shows, in the same section as in figure 3, performance of a subsequent stage of the invention;

figure 5 schematically shows the result of the operative stage shown in figure 4;

figure 6 schematically shows a laying operation of the product of the invention.

DESCRIPTION of the PREFERRED EMBODIMENTS.

With reference to the figures of the drawings, 1 denotes in its entirety a tile or slab exhibiting a visible surface, or what is usually called an upper surface 1a (the decorated surface) and a laying surface, usually called a lower surface 1b. In order to give the tile 1 a non-flat predetermined surface, the invention provides a process having the following work stages on the tile:

cutting at least one groove 2 into the upper surface 1a to a depth therein which is only a part thereof;

fixing a thin and flexible temporary support element 3 to the upper surface 1a;

making at least one recess 4 which, starting from the lower surface 1b covers the entire width of the body of the tile 1 in a position corresponding to the groove 2, but not the support element 3; the recess 4 separating the body of the tile 1 into at least two parts, totally separated;

nearing the two parts of the tile by bending the thin and flexible temporary support element 3 which keeps the at least two parts of tile 1 (separated by the recess 4) united, so that the tile 1 is fashioned into the non-flat predetermined conformation.

In the figures of the drawings particular reference is made to a process which includes the following operational stages:

cutting a plurality of grooves 2 into the upper surface 1a to a depth therein which is only a part thereof;

fixing a thin and flexible temporary support element 3 to the upper surface 1a;

making a plurality of recesses 4 which, starting from the lower surface 1b cover the entire width of the body of the tile 1 in a position corresponding to the grooves 2, but not the support element 3; the recesses 4 separating the body

of the tile 1 into a plurality of parts, totally separated;

nearing the plurality of parts of the tile by bending the thin and flexible temporary support element 3 which keeps the plurality of parts of tile 1 (separated by the recesses 4) united, so that the tile 1 is fashioned into the non-flat predetermined conformation.

The support element 3 can be removed and is advantageously self-adhesive, i.e. is constituted by a sheet of self-adhesive material which can be easily applied to the upper surface 1a once the grooves 2 have been made.

The tile 1 with the support element 3 applied thereon is then subjected to a cutting operation, schematically illustrated in figure 4, in which a plurality of recesses 4 are cut, starting from the lower surface 1b and covering the whole width of the tile 1 body at a same position as the grooves 2 but not cutting the support element 3.

The recesses 4 separate the body of the tile 1 into a plurality of parts, totally separated one from another.

The recesses 4 are made using V-shaped grinders, each of which generates - in the still-flat tile - a groove which is delimited by two converging sides towards a corresponding groove 2 on the opposite upper surface 1a.

Once the tile 1 has been cut it is in two parts, totally separate one from another, but held together in the original positions thereof, before the cut, by the support element 3, which is flexible and thus enables a different reciprocal positioning of the parts.

At moment of laying, this reciprocal positioning possibility can be used to make, as is schematically illustrated in figure 6, a non-flat conformation which is in particular constituted by an angular convex finishing, i.e. with the upper surface 1a in a convex conformation.

This conformation can easily be realized through a bending of the portion of

the support element 3 which keeps the parts of the tile 1 united; in this way the tile 1 can be bent to reach the desired non-flat conformation.
After setting, for example using cement or grout 6, the support element 3 can easily be removed.